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Transmitted herewith for filing under 37 C.F.R. §1.53(b) is the patent application of
Inventor(s): Aki NAGANOFor: TRANSACTION MANAGING APPARATUS AND METHOD AND RECORDING MEDIUM STORING TRANSACTION
MANAGING PROGRAM THEREIN

- XX Specification and Claims (52 pages)
- XX 31 sheets of drawings
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Respectfully submitted,

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TITLE OF THE INVENTION

TRANSACTION MANAGING APPARATUS AND METHOD AND
RECORDING MEDIUM STORING TRANSACTION MANAGING
PROGRAM THEREIN

5

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to transaction
managing apparatus and method which are used for a POS
10 terminal that is used for sales of goods at a store in
distribution retail business, and to a recording medium
in which a transaction managing program has been
stored. More particularly, the invention relates to
transaction managing apparatus and method for a POS
15 terminal, by which incomplete transactions such as
deferred pickup transaction in which the customer
prepays for goods and receives them later on another
day, deferred payment sales in which goods are
previously delivered and the customer pays for them
20 later on another day, and the like are managed and
controlled in a lump, and to a recording medium in
which a transaction managing program has been stored.

Description of the Related Arts

Hitherto, as for sales of goods in distribution
25 retail business, in addition to normal sales in which
payment and a receipt of goods are simultaneously
performed, there is an incomplete transaction in which

payment is made as prepayment, postpayment, payment by installments, or the like and the goods are delivered as predelivery, postdelivery, delivery by installments, or the like. In the incomplete transaction, when the transaction is started with the prepayment or the predelivery of goods, the contents of the transaction have to be continuously managed until the delivery of the goods or the payment is completed. As for the incomplete transaction, whether the timing to sum up the sales is set to the start of the transaction or the end of the transaction (at the time of completion of the payment of balance or at the time of the delivery of goods) is determined as necessary, and it is necessary to sum up the sales at the determined timing.

However, in the conventional sales of goods, there are: the case where systems are provided for POS terminals in accordance with the kinds of incomplete transactions such as transaction of prepayment and postdelivery of goods, transaction of predelivery of goods and postpayment, and the like and various transactions are individually managed every system; and the case where the incomplete transactions are managed on the basis of slips independently of such systems. Therefore, in order to perform the management of all of the incomplete transactions, the grasp of the situations, and the like, it takes long time, it is difficult to perform such management and grasp, and

there is also a possibility that they are incorrectly performed.

SUMMARY OF THE INVENTION

5 According to the invention, there is provided a transaction managing apparatus for a POS terminal, in which management of all of the incomplete transactions, a grasp of situations thereof, and the like can be correctly performed in a short time and the kind of
10 incomplete transaction can be also correctly changed in a short time.

 A transaction managing apparatus for a POS terminal according to the invention is characterized by comprising: a transaction defining unit for defining a
15 plurality of kinds of incomplete transaction types by combining a plurality of predetermined categories; and a management control unit for designating one of the plurality of kinds of incomplete transaction types and managing and controlling the transaction from the start
20 to the end thereof in a lump by an interactive operation with the operator. According to the invention, therefore, the plurality of incomplete transactions can be controlled and managed in a lump by one system, so that the management of all of the
25 incomplete transactions, the grasp of situations thereof, and the like can be correctly performed in an extremely short time. It is also possible to correctly

change the control and management of the incomplete transaction in a short time merely by changing the designation of the incomplete transaction type.

There are the following categories to define the
5 incomplete transaction types.

- (1) Method of tender such as prepayment, postpayment, payment by installments, or the like.
- 10 (2) Setting of necessity/unnecessity of prepayment.
In case of necessity, the lowest percentage, the lowest amount, or the like is set.
- (3) Term for payment
- (4) Delivering method such as predelivery,
15 postdelivery, delivery by installments, or the like
- (5) Scheduled delivery date in case of predelivery, postdelivery, or the like
- (6) Setting of permission/inhibition of predelivery.
For example, when a paid amount does not reach
20 the price of goods, whether the delivery is possible or not is set.
- (7) Sales sum-up timing at the time of the start of the transaction, the completion of the payment, the completion of the transaction, or the like

25

The transaction defining unit of the present invention defines the incomplete transaction types by

combining at least three items of the sales sum-up timing, the presence or absence of necessity of the prepayment, and method of delivering goods.

As incomplete transaction types, for example, the transaction defining unit defines at least one of the following types A, B, C, and D.

10 Type A: Deferred pickup transaction on the principle of occurrence in which the sales are summed up upon occurrence of a transaction of a total amount prepayment.

15 Type B: Deferred pickup transaction on the principle of completion in which the sales are summed up upon completion of a transaction of the total amount prepayment.

20 Type C: Deferred payment transaction on the principle of occurrence in which the sales are summed up upon occurrence of a transaction of deferred payment sales with a specific customer.

25 Type D: Deferred payment transaction on the principle of completion in which the sales are summed up upon completion of a transaction of the deferred payment sales with a specific customer.

As for the deferred pickup transaction on the principle of occurrence of the type A, the transaction defining unit forms type code information having a

combination of the categories in which the sales sum-up timing is set to the timing upon occurrence of the transaction, to the timing at which the prepayment of a total amount is necessary, and to the timing at which

5 the delivery of goods is performed later on another day. When the incomplete transaction of the type A as a deferred pickup transaction on the principle of occurrence is designated, the management control unit executes a prepaying process at the start of the

10 transaction and a delivering process upon completion of the transaction. That is, as processes upon prepayment at the start of the transaction, the following processes are executed: an issue of a slip number of the incomplete transaction; an input of a delivery date

15 of goods; a registration of goods; a registration of an amount of payment; a confirmation of the payment of the total amount; a display of an error in the case where the payment is not made yet; an issue of a customer copy with the slip number; and a sum-up of the sales.

20 As processes upon delivery at the time when the transaction is completed, a display of incomplete transaction information by the input of the slip number, a registration of the delivery, and a termination of the incomplete transaction are executed.

25 As for the deferred pickup transaction on the principle of completion of the type B, the transaction defining unit forms type code information having a

combination of the categories in which the sales sum-up timing is set to the timing upon completion of the transaction, to the prepayment of a total amount is necessary, and to the delivery of goods is set to postdelivery. When the incomplete transaction of the type B as a deferred pickup transaction on the principle of completion is designated, the management control unit performs the prepaying process at the start of the transaction and the delivering process upon completion of the transaction. That is, as processes upon prepayment at the start of the transaction, the following processes are executed: namely, an issue of a slip number of the incomplete transaction; an input of a delivery date of goods; a registration of goods; a registration of an amount of payment; a confirmation of the total amount payment; a display of an error in the case where the payment is not made yet; and an issue of a customer copy with the slip number. As processes upon delivery at the end of the transaction, a display of incomplete transaction information by the input of the slip number, a registration of the delivery, a sum-up of the sales, and a termination of the incomplete transaction are executed. The type B differs from the type A only with respect to a point that the sales sum-up timing in the type A is set to the start of the transaction and that in the type B is set to the completion of the

transaction.

With respect to the deferred payment transaction on the principle of occurrence of the type C, the transaction defining unit forms type code information having a combination of the categories in which the sales sum-up timing is set to the timing upon occurrence of the transaction, to the prepayment is unnecessary, and to the delivery of goods is set to a predelivery. When the incomplete transaction of the type C as a deferred payment transaction on the principle of occurrence is designated, the management control unit executes the prepaying process at the start of the transaction and the process upon payment. That is, as processes upon prepayment at the start of the transaction, the following processes are executed: namely, an issue of a slip number of the incomplete transaction; an input of a delivery date of goods; a registration of goods; a registration of an amount of payment including a zero amount; an issue of a customer copy with the slip number; a registration of a delivery; and a sum-up of the sales. As processes upon payment, a display of incomplete transaction information by the input of the slip number, a registration of the amount of payment, and a termination of the incomplete transaction in the case where a balance is equal to 0 are executed.

As for the deferred payment transaction on the

principle of completion of the type D, the transaction defining unit forms type code information having a combination of the categories in which the sales sum-up timing is set to the timing upon completion of the

5 transaction, the prepayment is unnecessary, and the delivery of goods is set to a predelivery. When the incomplete transaction of the type D as a deferred payment transaction on the principle of completion is designated, the management control unit executes the

10 prepaying process at the start of the transaction and the process upon payment. In other words, as processes upon prepayment at the start of the transaction, the following processes are executed: namely, an issue of a slip number of the incomplete transaction; an input of

15 a delivery date of goods; a registration of goods; a registration of an amount of payment including a zero amount; a registration of a delivery; and an issue of a customer copy with the slip number. As processes upon payment, the following processes are executed: namely,

20 a display of incomplete transaction information by the input of the slip number; a registration of the amount of payment; a sum-up of the sales in the case where a balance is equal to 0; and a termination of the incomplete transaction. The type C differs from the

25 type D only to the point that the sales sum-up timing in the type C is set to the start of the transaction and that in the type D is set to the completion of the

transaction.

The transaction defining unit has, for example, an incomplete transaction management table, a type code table, an incomplete transaction line item information table, and a payment information management table. The

5 incomplete transaction management table stores basic management information such as store number, incomplete transaction slip number, type code, transaction serial number upon occurrence, date and time of occurrence,

10 customer number, requested amount, amount of down payment, balance, scheduled delivery date, delivery completion flag, sum-up possible/impossible flag, totalization completion flag, and the like. The type code table is designated by the type code in the

15 incomplete transaction management table and stores category combination information such as sales sum-up timing, prepayment necessary/unnecessary flag, predelivery possible/impossible flag, method of tender, delivering method, and the like. The incomplete

20 transaction detail information table is designated by the incomplete transaction slip number in the incomplete transaction management table and stores goods management information such as goods code, unit price, quantity, discount information, and the like.

25 Further, the payment information management table is designated by the incomplete transaction slip number in the incomplete transaction management table and stores

payment management information such as date and time
(time stamp) of payment, paid amount, kind of tender,
and the like. On the basis of each table information
of the transaction defining unit, the management
5 control unit displays the following lists as a whole
list or every type: namely, a list showing the
incomplete transactions; a list of the customers who do
not come to receive goods even after the scheduled
delivery date; a list of the customers who do not come
10 to pay after the term of payment; a list of the payment
situations; and the like. As information that is
stored in each table, each table does not need to have
all of the information that is listed up but the
invention includes a case where the table has proper
15 storage contents as necessary.

According to the present invention, there is
provided a transaction managing method for a POS
terminal, comprising the steps of:

defining a plurality of kinds of incomplete
20 transaction types by combining a plurality of
predetermined categories; and

designating one of the plurality of kinds of
incomplete transaction types by an interactive
operation with the operator and managing and
25 controlling processes in a lump from the beginning of
the transaction to the end.

According to the present invention, there is

provided a recording medium which stores a management control program, wherein the management control program comprises the steps of: defining a plurality of kinds of incomplete transaction types by combining a
5 plurality of predetermined categories; and designating one of the plurality of kinds of incomplete transaction types by an interactive operation with the operator and managing and controlling processes in a lump from the beginning of the transaction to the end.

10 The invention provides a transaction system, a plurality of terminal apparatuses are connected through a network to a server for managing transaction information, and each of those terminal apparatuses comprises: a transaction defining unit for defining a
15 plurality of kinds of incomplete transaction types by combining a plurality of predetermined categories; and a management control unit for designating one of the plurality of kinds of incomplete transaction types by an interactive operation with the operator and managing
20 and controlling processes in a lump from the beginning of the transaction to the end.

The above and other objects, features, and advantages of the present invention will become more apparent from the following detailed description with
25 reference to the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an explanatory diagram of a POS system to which the invention is applied;

Fig. 2 is an explanatory diagram of a program structure of a POS terminal in Fig. 1;

5 Fig. 3 is a block diagram of a functional construction of the POS terminal according to the invention;

10 Figs. 4A and 4B are explanatory diagrams of a table structure provided for a transaction defining unit in Fig. 3;

 Figs. 5A to 5D are explanatory diagrams of incomplete transaction types defined in the POS terminal in Fig. 3;

15 Fig. 6 is a flowchart for an incomplete transaction process by the POS terminal in Fig. 3;

 Fig. 7 is a flowchart for a paying process in a deferred pickup transaction on the principle of occurrence (type A);

20 Figs. 8A to 8D are explanatory diagrams of operation picture planes in the paying process in Fig. 7;

 Fig. 9 is a flowchart for a delivering process in the deferred pickup transaction on the principle of occurrence (type A);

25 Figs. 10A to 10E are explanatory diagrams of operation picture planes in the delivering process in Fig. 9;

Fig. 11 is a flowchart for a paying process in the deferred pickup transaction on the principle of completion (type B);

5 Fig. 12 is a flowchart for a delivering process in the deferred pickup transaction on the principle of completion (type B);

Fig. 13 is a flowchart for a paying process in a deferred payment transaction on the principle of completion (type D);

10 Figs. 14A to 14E are explanatory diagrams of operation picture planes in the paying process in Fig. 13;

15 Fig. 15 is a flowchart for the paying process in the deferred payment transaction on the principle of completion (type D);

Figs. 16A to 16E are explanatory diagrams of operation picture planes in the paying process in Fig. 15;

20 Fig. 17 is a flowchart for the paying process in a deferred payment transaction on the principle of occurrence (type C);

Fig. 18 is a flowchart for the paying process in the deferred payment transaction on the principle of occurrence (type C);

25 Figs. 19A and 19B are explanatory diagrams of a display of list picture planes in the incomplete transaction; and

Figs. 20A and 20B are explanatory diagrams of another embodiment of a table structure provided for the transaction defining unit in Fig. 4.

5 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

(Construction and functions)

Fig. 1 is an explanatory diagram of a POS system (point of service system) to which transaction managing apparatus and method of the invention are applied. The

10 POS system comprises a plurality of POS terminals 10-1 and 10-2, an LAN 12, a POS server 20, a server file 22, a host system 24, and a host file 26. Input/output apparatuses for POS such as bar code readers 14-1 and 14-2, printers 16-1 and 16-2, card readers 18-1 and 18-

15 2, and the like are provided for the POS terminals 10-1 and 10-2 as necessary. Although fig. 1 shows an example of the POS system of a large scale, in case of a POS system of a middle scale, the system is constructed by the POS server 20, server file 22, and

20 POS terminals 10-1 and 10-2. Further, in case of a system of a small scale such as a private store or the like, there is a case where the POS system is constructed only by the POS terminals 10-1 and 10-2. Such a POS system is installed in a store or the like

25 of the distribution retail business, performs a settlement by cash, a credit card, or the like in association with a purchase of goods, and sums up a

result of settlement. In the invention, each of the POS terminals 10-1 and 10-2 has a function to perform management and a control in a lump with respect to what is called an incomplete transaction in which the payment, the delivery of goods, and the like are performed at the different dates/hours in addition to the normal transaction in which the settlement of payment and the receipt of goods are performed at the time of purchase.

Fig. 2 shows an example of a program structure of the POS terminal 10-1 in Fig. 1. The POS terminal 10-1 is provided with: a POS application 28; a retail application frame work technology 30 as middle software; an OS 32; and an IOPOS 34 for standardizing the input/output apparatuses for the purpose of POS. The bar code reader 14-1, printer 16-1, and card reader 18-1 are connected to the IOPOS 34, thereby enabling them to be handled as standardized input/output apparatuses as compared with the retail application frame work technology 30. The retail application frame work technology 30 also communicates with the POS server 20 in Fig. 1. The function of the transaction managing apparatus for an incomplete transaction according to the invention is realized by the retail application frame work technology 30 and POS application 28 in the POS terminal 10-1 in Fig. 2.

Fig. 3 is a block diagram of a functional

construction of the transaction managing apparatus according to the invention which is provided for the POS terminals 10-1 and 10-2 in Fig. 1 and is used for managing and controlling the incomplete transaction in a lump. The transaction managing apparatus of the invention is constructed by a transaction defining unit 36 and a management control unit 38. A database 40 is provided for the transaction defining unit 36.

Input/output apparatuses such as incomplete transaction picture plane display unit 42, key input unit 46, bar code reader 14, slip issuing unit 48, and the like are provided for the management control unit 38. When considering the correspondence with the program structure in Fig. 2, the function of the transaction defining unit 36 is realized by the retail application frame work technology 30 and the management control unit 38 is realized by the POS application 28. The transaction defining unit 36 defines a plurality of kinds of incomplete transaction types by combining a plurality of predetermined categories with respect to the incomplete transaction. In association with the definition of the incomplete transaction types, an incomplete transaction management table 50, a type code table 52, an incomplete transaction detail information table 54, and a payment information management table 56 are provided for the transaction defining unit 36. Among them, the type code table 52 functions as a

definition table in which a plurality of kinds of incomplete transaction types are defined by combining a plurality of categories. The management control unit 38 designates one of the incomplete transaction types defined by the transaction defining unit 36 by the interactive operation with the operator and manages and controls processes in a lump from the beginning of the transaction to the end. In the embodiment, in the transaction defining unit 36, since it is assumed that four types A, b, C, and D are defined as an example as will be explained hereinlater, a type A management control unit 58, a type B management control unit 60, a type C management control unit 62, and a type D management control unit 64 are provided for the management control unit 38. Further, incomplete transaction information 66 and normal transaction information 68 are provided for the database 40. Each transaction information formed by the transaction operation of the POS terminal is recorded. An item name table 70 and a price lookup table (PLU) 72 are provided for the database 40. The item name table 70 is constructed by an item number code and an item name. The item number code and the item name can be recognized with reference to the item name table 70 based on the code read out by the bar code reader 14. The price lookup table 72 is constructed by the item number code and the price. Therefore, the price can be

recognized by seeing the price lookup table 72 on the basis of the item number code derived with reference to the item name table 70.

Figs. 4A and 4B are explanatory diagrams of the details of each table provided for the transaction defining unit 36 in Fig. 3 and its link structure. The incomplete transaction management table 50 has basic information for incomplete transaction. That is, the incomplete transaction management table 50 is provided with: a store number, an incomplete transaction serial number (incomplete transaction slip number), a type code indicative of an incomplete transaction type, a transaction serial number upon occurrence, date and time of occurrence, a customer number, a status code, final updating date and time, an employee ID upon occurrence, a requested amount, an amount of down payment, a balance, a scheduled delivery date, a delivery completion flag, a sum-up possible/impossible flag, a totalization completion flag, and the like.

The incomplete transaction detail information table 54 and payment information management table 56 can be referred to on the basis of the store number and the incomplete transaction serial number in the incomplete transaction management table 50. A store number, an incomplete transaction serial number, a line item number, line item information, and the like have been stored in the incomplete transaction detail information

table 54. A store number, an incomplete transaction serial number, a payment processing store number, a transaction serial number upon payment, date and time of payment, a paid amount, a kind of tender, an employee ID upon payment, and the like have been stored in the payment information management table 56. The type code table 52 can be referred to on the basis of the type code in the incomplete transaction management table 50. The type code table 52 is a table for defining a plurality of kinds of incomplete types by combining a plurality of predetermined categories in the transaction defining unit 36 in Fig. 3. In the embodiment, a plurality of categories such as type code, sum-up timing, payment necessary/unnecessary flag, predelivery possible/impossible flag, method of tender, delivering method, and the like are provided in the type code table 52. The type of incomplete transaction is determined by a combination of those categories. Each category in the type code table 52 will now be described as follows. First, a timing at the start of the transaction, a timing upon completion of the payment, a timing upon completion of the delivery, and the like can be set as sum-up timings. The prepayment necessary/unnecessary flag is used to set the presence or absence of the necessity of the prepayment in the incomplete transaction. In this case, if the prepayment is necessary, the lowest

percentage, the lowest amount, or the like can be set. The next predelivery possible/impossible flag is a flag for setting whether the predelivery of goods is possible or not. For example, when the paid amount
5 does not reach the goods price, a condition about whether the predelivery is possible or not or the like is set. A prepayment, a postpayment, a payment by installments, or the like is set as a method of tender. There is a predelivery, a postdelivery, a delivery by
10 installments, or the like as a delivering method. A scheduled delivery date can be also set in association with the delivering method. As for the scheduled delivery date, an appointed day is set in case of predelivery and a date determined as a default, for
15 example, a date after five business days or the like is set in case of postdelivery. Among those categories in the type code table 52, there are the following items as minimum categories necessary for incomplete transaction in the invention.

- 20 I. sum-up timing
 II. prepayment necessary/unnecessary flag
 III. delivering method

 The type of incomplete transaction can be defined by combining the other categories with those three
25 basic categories as necessary.

 Figs. 5A to 5D are explanatory diagrams of a type code table in which four types A, B, C, and D have been

defined as types of the incomplete transaction. Fig. 5A shows a type code table 74 for the deferred pickup transaction and on the principle of occurrence corresponding to the type A. The incomplete transaction of the type A is an unsettled transaction of the prepayment of a total amount and is a deferred pickup transaction on the principle of occurrence in which the sales are summed up upon occurrence of the transaction. Therefore, in the type code table 74 for the deferred pickup transaction and on the principle of occurrence, the type code A is first defined. Subsequently, "upon occurrence of transaction" is defined as a sum-up timing. "necessary" is defined as a prepayment necessary/unnecessary flag. "total amount" is defined as attribute information. "postdelivery" is defined as a delivering method. Thus, the type designation of the incomplete transaction by the three basic categories is performed. Further, "after 5 business days" is set as a default of the scheduled delivery date. Fig. 5B is an explanatory diagram of a type code table 76 in which the incomplete transaction of the type B is defined. The incomplete transaction of the type B is an incomplete transaction of the prepayment of a total amount and is a deferred pickup transaction on the principle of completion in which the sales are summed up upon completion of the transaction. Therefore, in the type code table 76 for

the deferred pickup transaction and on the principle of completion, the type code B is first defined.

Subsequently, "at the end of transaction" is defined as a sum-up timing. The subsequent prepayment

- 5 necessary/unnecessary flag, delivering method, and scheduled delivery date are the same as those in case of the type code table 74 in Fig. 6A. Fig. 5C is an explanatory diagram of a type code table 78 in which the incomplete transaction of the type C is defined.
- 10 The incomplete transaction of the type C is an unsettled transaction in which deferred payment sales are made for a specific customer and is a deferred payment transaction on the principle of occurrence in which the sales are summed up upon occurrence of the
- 15 transaction. Therefore, in the type code table 78 for the deferred payment transaction and on the principle of occurrence, the type code C is defined. "upon occurrence of transaction" is defined as a sum-up timing. "unnecessary" is defined as a payment
- 20 necessary/unnecessary flag because of the deferred payment transaction of deferred payment sales, "predelivery" is defined as a delivering method, and further, "appointed day" as a default is defined as a scheduled delivery date. Fig. 5D is an explanatory
- 25 diagram of a type code table 80 in which the incomplete transaction of the type D is defined. The incomplete transaction of the type D is an unsettled transaction

in which deferred payment sales are made for a specific customer and is a deferred payment transaction on the principle of completion in which the sales are summed up upon completion of the transaction. In

5 correspondence to the unsettled transaction types A, B, C, and D defined in the type code tables 74, 76, 78, and 80, in Figs. 5A to 5D, the control functions of the type A management control unit 58, type B management control unit 60, type C management control unit 62, and
10 type D management control unit 64 are provided for the management control unit 38 in Fig. 3. Each of the management control units 58, 60, 62, and 64 manages and controls all of the incomplete transactions separately with respect to the process at the time of prepayment
15 in which the incomplete transaction is started and the process in which the goods delivery or the payment is made.

Fig. 6 is a fundamental flowchart for the control process with respect to the incomplete transaction by
20 the transaction managing apparatus according to the invention of Fig. 3. First, when an incomplete operation key is depressed in order to declare the incomplete transaction by using the operation picture plane of the POS terminal, it is discriminated in step
25 S1. An incomplete transaction menu is displayed in step S2. When the incomplete transaction menu is displayed, two menus of "transaction upon payment" in

which the incomplete transaction is started and
"transaction upon delivery" (including "transaction
upon payment") in which the incomplete transaction is
completed are displayed. When the menu of "transaction
5 upon payment" indicative of the start of the incomplete
transaction is selected, the processing routine
advances from step S3 to step S4. The process upon
payment according to the type designated at that time
is executed. When the start of the incomplete
10 transaction is not selected in step S3, whether the
incomplete transaction delivery has been selected or
not is discriminated in step S5. If the delivery is
selected, step S6 follows and the process upon delivery
according to the slip number is executed. The
15 processes in steps S1 to S6 are repeated until there is
an end instruction to the POS terminal in step S7.
When the incomplete operation key is not depressed in
step S1, the processing routine advances to the process
for the normal transaction (not shown).

20

(Deferred pickup transaction)

Fig. 7 is a flowchart for a process upon
prepayment in step S4 in Fig. 6 in the case where the
incomplete transaction type A as a deferred pickup
25 transaction on the principle of occurrence has been
designated. In the process upon payment for starting
the transaction in the deferred pickup transaction on

the principle of occurrence, first, in step S1, the delivery date of goods is inputted. As a delivery date of goods, "after 5 business days" is displayed as a default in the type code table 74 in Fig. 5A. If this date is wrong, it is corrected by a manual input or the like. In step S2, the registration of goods using the bar code reader or the like is executed in step S2 in a manner similar to the normal transaction. In step S3, the amount of payment is registered. In the deferred pickup transaction on the principle of occurrence of the type A, the prepayment necessary/unnecessary flag is set to "necessary (total amount)" with reference to the type code table 74 in Fig. 5A. Therefore, after the amount of payment was registered, whether the total amount has been paid or not is discriminated in step S4. If the total amount is not paid, an error is displayed in step S7. The registration of the amount of payment is executed again in step S4. If the total amount was paid in step S4, step S5 follows and a customer copy with the incomplete transaction slip number is issued by the printer. Finally, the sales are summed up in step S6. That is, the sales are summed up at the start of the incomplete transaction in the deferred pickup transaction on the principle of occurrence of the type A.

Figs. 8A to 8D and 9 are explanatory diagrams of operation picture planes of the POS terminal in the

process upon payment of the deferred pickup transaction on the principle of occurrence in Fig. 7. Fig. 8A shows a sales registration picture plane 82 shown as an initial picture plane of the POS terminal. A bar code display frame 84 and a goods information list 85 which are used for the normal sales registration are displayed in an empty state onto the sales registration picture plane 82. Further, a check box 86 for the incomplete transaction is provided on the lower side.

10 In the normal sales registration, when a bar code scan of the goods is performed, a bar code (numeral) is automatically displayed in the bar code display frame 84 (it can be also manually inputted by a key input) and a name, a price, and the like of the goods are

15 displayed in the goods information list 85. Therefore, the start of the incomplete transaction is first declared. As for the declaration of the start of the incomplete transaction, the check box 86 of the incomplete transaction on the sales registration

20 picture plane 82 is selected by clicking the mouse, depressing the operation key, pressing a touch panel, or the like, thereby inverting it to a state shown in black (hereinbelow, this operation is merely referred to as "selection of check box"). The screen is

25 switched to an incomplete transaction menu picture plane 88 of Fig. 8B by the declaration of the start of the incomplete transaction. Check boxes 90 and 92 are

provided on the incomplete transaction menu picture plane 88 with respect to the transaction upon payment and the transaction upon delivery. The check box 90 of the transaction upon payment is selected. The screen

5 is switched to an incomplete transaction type selection picture plane 94 of Fig. 8C by the selection of the check box 90. Check boxes 96, 98, 100, and 102 of four types of the deferred pickup transaction (on the principle of occurrence), deferred payment transaction

10 (on the principle of occurrence), deferred pickup transaction (on the principle of completion), and deferred payment transaction (on the principle of completion) are provided on the incomplete transaction type selection picture plane 94. Since the transaction

15 is the deferred pickup transaction on the principle of occurrence, the check box 96 is selected.

Subsequently, the screen is switched to a delivery date input picture plane 104 in the deferred pickup transaction of Fig. 8D. Assuming that the current date

20 of the start of the transaction is set to September 23, 1999, "19990928" indicative of "after 5 business days" of the default is displayed in an input frame 106 of the delivery date input picture plane 104. If a correction is necessary, the date is corrected by a

25 manual input or the like. In this state, the bar code of the goods is read by the bar code reader or the like, the goods is registered, a payment for the

displayed price is received from the customer, its payment registration is performed, and in case of a total amount, a customer copy on which the incomplete transaction slip number has been recorded is issued by the printer. If the amount of payment at the time of the payment registration is not equal to the total amount, an error display or the like is performed.

Fig. 9 is a flowchart for a process upon delivery which is performed after the process upon payment of the incomplete transaction type A in Fig. 7. In the process upon delivery, with reference to the customer copy handed upon payment in step S1, the incomplete transaction slip number is inputted. On the basis of the input of the slip number, the relevant incomplete transaction is displayed in step S2. The goods is handed on the basis of the display contents and a registration key is depressed. When the registration key is depressed in step S3, step S4 follows and a process for completing the incomplete transaction is executed. With respect to the contents of the incomplete transaction displayed in step S2, if the goods delivery has already been registered, an error display or the like is performed. Since the registration key is not selected, step S5 follows. Whether the delivery has been performed or not is discriminated from the registration contents. The processing routine is finished.

Figs. 10A to 10E are explanatory diagrams of operation picture planes for the process upon delivery in the incomplete transaction type A in Fig. 9. When the declaration of the incomplete transaction on the sales registration picture plane in Fig. 10A is selected by the check box 86, since the screen is switched to the incomplete transaction menu picture plane 88 of Fig. 10B, the transaction upon delivery is designated by selecting the check box 92. Thus, the screen is switched to a slip number input picture plane 108 of Fig. 10C. Therefore, by inputting the slip No. "0000001" recorded on the received customer copy slip, the screen is switched to an incomplete transaction confirmation picture plane 112 of Fig. 10D. Status display boxes 116 and 118 with respect to a sales date, a sales amount, a balance, a delivery date, completion of payment, and "delivered" are provided for the incomplete transaction confirmation picture plane 112 in correspondence to the slip number, respectively. When the registration key is operated, therefore, the status display box 118 of "delivered" is set to "delivered" and a series of incomplete transaction is finished. In the case where the screen is switched to an incomplete transaction confirmation picture plane 112 of Fig. 10E when the slip number is inputted in Fig. 10C, since the status display box 118 has already been set to "the goods has already been delivered", a

message indicating this fact or the like is displayed and a series of processes is finished.

Fig. 11 is a flowchart for a process upon payment in the deferred pickup transaction on the principle of completion corresponding to the incomplete transaction type B. In the process upon payment in the deferred pickup transaction on the principle of completion, the check box 86 of the incomplete transaction is clicked on the sales registration picture plane 82 as shown in Fig. 8A, the check box 90 of the transaction upon payment is selected on the incomplete transaction menu picture plane 88 in Fig. 8B, and subsequently, the check box 100 of the deferred pickup transaction (on the principle of completion) is selected on the incomplete transaction type selection picture plane 94 of Fig. 8C, thereby activating such a process upon payment. First, in step S1, the delivery date of goods is inputted by using the same delivery date input picture plane 104 as that of Fig. 8D. Also in this case, "after 5 business days" of a default as a scheduled delivery date set in the type code table 76 in Fig. 5B is displayed. If it is necessary to correct the delivery date, it is corrected by a manual input or the like. Subsequently, in step S2, a registration of the goods is performed by reading the bar code of the goods by using the bar code reader or the like in a manner similar to the case of the normal transaction.

An amount of payment is registered in step S3. In this case, since it is recognized from the type code table 76 in Fig. 5B that the prepayment is necessary and the total amount is necessary, when it is confirmed in step 5 S4 that the total amount has been paid, a customer copy with the incomplete transaction slip number is issued in step S5. If the total amount is not paid in step S4, an error display or the like is performed in step S6. The registration of the paid amount from step S3 10 is executed again. In the process upon payment in the deferred pickup transaction on the principle of completion in Fig. 11, a point that the sum-up of sales amounts is not performed in the process upon payment differs from the case of the deferred pickup 15 transaction on the principle of occurrence of the type A shown in Fig. 7.

Fig. 12 is a flowchart for a process upon delivery in the deferred pickup transaction on the principle of completion which is executed at the time of the 20 delivery of goods after the process upon payment in Fig. 11. Also in the process upon delivery, first, when the check box 86 of the incomplete transaction is selected on the same sales registration picture plane 82 as that of Fig. 10A and the check box 92 upon 25 delivery is selected on the incomplete transaction menu picture plane 88 of Fig. 10B, the slip number input picture plane 108 of Fig. 10C is displayed. By

inputting the incomplete transaction slip number recorded on the customer copy in step S1, the incomplete transaction confirmation picture plane 112 similar to that of Fig. 10D is displayed in step S2.

5 After it is confirmed that the payment is not finished, by clicking the registration key, the processing routine advances from step S3 to step S4. At this time point, the sales are summed up and the incomplete transaction is completed. In the case where the
10 confirmation display picture plane of the incomplete transaction in step S2 indicates that the status display box 118 indicates "delivered" as shown in Fig. 10E, the processing routine is finished.

15 (Deferred payment transaction)

Fig. 13 is a flowchart for a process upon payment in the case where the incomplete transaction type D as a deferred payment transaction on the principle of completion is selected in the embodiment of Fig. 3. In
20 the registering process of the incomplete transaction type D, first, the check box of the incomplete transaction 86 is selected on the sales registration picture plane 82 as shown in Fig. 14A and the incomplete transaction is declared. Subsequently, the
25 check box 92 of the transaction upon delivery is clicked by using the incomplete transaction menu picture plane 88 in Fig. 14B and the check box 102 of

the deferred payment transaction (on the principle of completion) is selected with respect to the incomplete transaction type selection picture plane 94 of Fig.

14C, so that the process is started. When the process

5 is started, an input picture plane 115 of the delivery date of goods in Fig. 14D is displayed in step S1.

"delivery on the appointed day (19990923)" which has

been set in the scheduled delivery date in the type code table 80 in Fig. 5D is displayed as a default in a

10 date input frame 115-1 on the input picture plane of the delivery date of goods. Subsequently, in step S2 in Fig. 13, the bar code of the goods is read by using the bar code reader, thereby registering the goods in a manner similar to the normal transaction. When the

15 registration of the goods is finished, in this deferred payment transaction, since it is recognized from the type code table 80 in Fig. 5D that the delivering method has been set to "predelivery" and the scheduled delivery date has been set to "appointed day", an

20 incomplete transaction confirmation picture plane 116-1 of Fig. 14E is displayed in order to confirm the delivery. Therefore, it is confirmed that when the

registration key is clicked with respect to the

incomplete transaction confirmation picture plane 116-

25 1, a status display box 126 of "delivered" on the

incomplete transaction confirmation picture plane 116-1 is set to "delivered". An amount of payment is

registered in step S4. In this deferred payment transaction, since it is valid, even if the amount of payment is equal to zero, the zero amount of payment is registered. A customer copy with the incomplete transaction slip number is issued in step S5. Since the deferred payment transaction is based on the principle of completion, the sum-up of the sales is not performed at this time point of the process upon payment.

- 10 Fig. 15 shows a process upon payment in the incomplete transaction type D which is executed in the case where there is a balance in the process upon payment in Fig. 13. With respect to the process upon payment of the deferred payment transaction, the check
- 15 box 86 of the incomplete transaction on the sales registration picture plane 82 is selected as shown in Fig. 16A and the incomplete transaction is declared and the check box 92 of the transaction upon delivery is selected on the incomplete transaction menu picture
- 20 plane 88 of Fig. 16B, so that the screen is switched to the slip number input picture plane 115 of Fig. 16C. Therefore, in the paying process of the deferred payment transaction (on the principle of completion) in Fig. 15, first, when the incomplete transaction slip
- 25 number recorded on the customer copy is inputted in step S1, an incomplete transaction confirmation picture plane 116-2 of Fig. 16D is displayed in step S2.

Subsequently, in step S3, whether the transaction has been completed or not is discriminated. If NO, a balance on the incomplete transaction confirmation picture plane 116-2 is equal to, for example, "¥25,000" as shown in Fig. 16D. Therefore, the registration key is clicked in step S4 for the purpose of payment. An amount of payment is registered in step S5. Whether the balance is equal to zero or not is now discriminated in step S6. If it is equal to zero, the sales are summed up and the incomplete transaction is completed in step S7. A customer copy with the incomplete transaction slip number is issued in step S8. When the transaction is completed in step S3, for example, in the case where a status display box 124 indicative of the zero balance and the completion of the payment and the check box 126 indicative of "paid and delivered" show the completion as shown on, for example, an incomplete transaction confirmation picture plane 116-3 of Fig. 16E, the processes in steps S4 to S7 are skipped. Since the process upon payment of the deferred payment process has already been finished, a customer copy with the incomplete transaction slip number is issued in step S8 and the processing routine is finished.

Fig. 17 is a flowchart for a process upon prepayment of the incomplete transaction type C as a deferred payment transaction on the principle of

occurrence. The processes from the input of the delivery date of goods in step S1 to the issue of a customer copy with the incomplete transaction slip number in step S5 are substantially the same as those in steps S1 to S5 for the process upon payment in the incomplete transaction type D (deferred payment transaction on the principle of completion) of Fig. 13. Since the transaction is based on the principle of occurrence in addition to those processes, Fig. 17 differs from Fig. 13 with respect to a point that the sales are summed up in step S6.

Fig. 18 is a flowchart for a process upon payment which is executed later on another day in the case where the balance is not equal to zero in the process upon payment in Fig. 17. Although the process upon payment is fundamentally the same as the process upon payment of the incomplete transaction type D (deferred payment process on the principle of completion) shown in Fig. 15, since the transaction is based on the principle of occurrence, Fig. 18 differs from Fig. 15 with respect to a point that the incomplete transaction is completed without summing up the sales in step S7. The other points are substantially the same as those in Fig. 15.

Figs. 19A and 19B show specific examples of a list display which can be displayed by the transaction managing apparatus according to the invention in Fig.

3. In the transaction managing apparatus of the invention, with respect to the incomplete transactions which are managed in a lump, the contents of the incomplete transactions can be displayed as a list as a whole list or every type. Fig. 19A shows a list display with respect to all of the incomplete transactions. All of situations of the incomplete transactions as of October 01, 1999, are displayed on an incomplete transaction list picture plane 128. In the list display, items of the slip number, date and time of occurrence, an amount of payment, and a type are displayed every incomplete transaction. This list picture plane is scroll displayed and results of totalization of the totals, the number of incomplete transactions, the number of transactions per type, the number of complete transactions, the number of delivery waiting transactions, the number of payment waiting transactions, and the like can be also displayed on the final page. Fig. 19B shows a display picture plane of a list of customers who do not come to receive the goods even after the expiration of the scheduled delivery date with regard to all of the incomplete transactions. A slip number, date and time of occurrence, a scheduled delivery date, and a type are displayed on an untake-over customer list picture plane 132. Besides them, an incomplete transaction list picture plane and an untake-over customer list picture

plane classified for each of the types A to D can be displayed. Further, also with respect to the unpayment customers who do not come to pay for the goods even after the expiration of the term for payment, lists of unpayment customers can be displayed as for all of the incomplete transactions and every type. Further, a list of payment situations can be displayed.

Figs. 20A and 20B show another embodiment of a table structure which is provided for the transaction defining unit 36 in Fig. 3. In this table structure, an option table 136, a payment schedule information table 138, a discount information table 140 are further added to the tables of Figs. 4A and 4B. In association with them, an option code and a payment schedule code are newly added to the incomplete transaction management table 50. The option code is linked to the option table 136. Handling methods for the unpayment persons such as option code, incomplete transaction longest period, method after the elapse of the longest period, commission on postpayment, and the like are defined in the option table 136. The payment schedule code added to the incomplete transaction management table 50 is linked to the payment schedule information table 138. Information regarding the payment by installments such as payment schedule code, lowest percentage of prepayment, the number of paying times, term for payment, payment schedule, and the like is

defined in the payment schedule information table 138.

Further, subsequent to the store number and the incomplete transaction serial number, information regarding the discount such as line item number,

5 discount information, and the like is defined in the discount information table 140 which is linked by the store number and the incomplete transaction serial number in the incomplete transaction management table 50. As mentioned above, as a table structure of the
10 transaction defining unit 36 in Fig. 3, the contents of the incomplete transaction can be defined in detail as necessary by the table structure with respect to a proper category of the incomplete transaction and, further, items which determine the transaction
15 contents. The item contents of each table can be properly defined as necessary in accordance with the contents of the incomplete transaction.

As described above, according to the invention, a plurality of kinds of incomplete transaction types are
20 defined in combination of a plurality of predetermined categories, one of the incomplete transaction types is designated by the interactive operation with the operator, and the processes from the start of the transactions to the end can be managed and controlled
25 in a lump, so that a batch control and a batch management of a plurality of incomplete transactions can be performed by one system. Therefore, management

of all of the incomplete transactions, a situation grasp, and the like which have been difficult so far can be accurately performed in an extremely short time. Further, since the incomplete transactions are

5 classified into types according to the combination of the categories, the management control method of the incomplete transaction can be accurately changed in a short time merely by designating the type.

Although the above embodiment relates to the

10 example of the transactions of four incomplete transaction types A to D defined by the type code table in Figs. 5A to 5D, the incomplete transaction type can be arbitrarily determined as necessary by a plurality of combinations of the categories including at least

15 the sum-up timing, prepayment necessary/unnecessary flag, and delivering method. In the actual incomplete transaction, it is not limited to the case of a plurality of types but there is also a case where it has an incomplete transaction of only a specific type.

20 In such a case, therefore, the processes regarding the incomplete transaction of the type which has previously been defined are executed merely by declaration of the incomplete transaction. The invention further provides a computer-readable recording medium on which an

25 incomplete transaction managing program has been recorded. Therefore, as a recording medium for this purpose, a proper portable recording medium such as FD,

CD-ROM, DVD, or the like can be used. A program for incomplete transaction which is stored in the recording medium has the function of the transaction defining unit 36 and the function of the management control unit 38 in Figs. 4A and 4B. In this case, since the transaction defining unit 36 is realized by, for example, the retail application frame work technology 30 in Fig. 2, an independent program in this portion can be realized. Since the program for the management control unit 38 is realized as a POS application 28, an independent program in this portion can be realized.

The invention incorporates many proper modifications and variations without departing from the objects and advantages of the invention. Further, the invention is not limited by the numerical values shown in the embodiment.

WHAT IS CLAIMED IS:

1. A transaction managing apparatus, comprising:
a transaction defining unit for defining a
plurality of kinds of unsettled transaction types by
5 combining a plurality of predetermined categories; and
a management control unit for designating one of
said plurality of kinds of unsettled transaction types
by an interactive operation with the operator and
managing and controlling processes in a lump from the
10 start of the transaction to the end.
2. An apparatus according to claim 1, wherein said
transaction defining unit defines the unsettled
transaction types by combining at least a sales sum-up
15 timing, the presence or absence of necessity of
prepayment, and a delivering method of goods as said
categories.
3. An apparatus according to claim 2, wherein as said
20 unsettled transaction types, said transaction defining
unit defines at least one of:
an unsettled transaction of prepayment of a total
amount, namely, a deferred pickup transaction on the
principle of occurrence in which sales are summed up
25 upon occurrence of the transaction;
an unsettled transaction of prepayment of a total
amount, namely, a deferred pickup transaction on the

principle of completion in which sales are summed up upon completion of the transaction;

an unsettled transaction of deferred payment sales for a specific customer, namely, a deferred payment transaction on the principle of occurrence in which sales are summed up upon occurrence of the transaction; and

an unsettled transaction of deferred payment sales for a specific customer, namely, a deferred payment transaction on the principle of completion in which sales are summed up upon completion of the transaction.

4. An apparatus according to claim 3, wherein said transaction defining unit forms type code information having a combination of categories in which a sales sum-up timing is set to a timing upon occurrence of the transaction, a prepayment of a total amount is necessary, and a delivery of goods is set to a postdelivery with respect to said deferred pickup transaction on the principle of occurrence.

5. An apparatus according to claim 4, wherein in the case where said deferred pickup transaction on the principle of occurrence is selected as an unsettled transaction type, said management control unit:

sequentially executes, as processes upon prepayment, an issue of an incomplete transaction slip

number, an input of a delivery date of goods, a registration of goods, a registration of an amount of payment, a confirmation of a payment of a total amount, an error display in case of unpayment, an issue of a customer copy with said slip number, and a sum-up of sales amounts; and

sequentially executes, as processes upon delivery, a display of incomplete transaction information by an input of the slip number, a registration of a delivery, and a termination of the incomplete transaction.

6. An apparatus according to claim 3, wherein said transaction defining unit forms type code information having a combination of categories in which a sales sum-up timing is set to a timing upon completion of the transaction, a prepayment of a total amount is necessary, and a delivery of goods is set to a postdelivery with respect to said deferred pickup transaction on the principle of completion.

7. An apparatus according to claim 6, wherein in the case where said deferred pickup transaction on the principle of completion is selected as an unsettled transaction type, said management control unit:

sequentially executes, as processes upon prepayment, an issue of an incomplete transaction slip number, an input of a delivery date of goods, a

registration of goods, a registration of an amount of payment, a confirmation of a payment of a total amount, an error display in case of unpayment, and an issue of a customer copy with said slip number; and

5 sequentially executes, as processes upon delivery, a display of incomplete transaction information by an input of the slip number, a registration of a delivery, a sum-up of sales amounts, and a termination of the incomplete transaction.

10

8. An apparatus according to claim 3, wherein said transaction defining unit forms type code information having a combination of categories in which a sales sum-up timing is set to a timing upon occurrence of the transaction, a prepayment is unnecessary, and a
15 delivery of goods is set to a predelivery with respect to said deferred payment transaction on the principle of occurrence.

20

9. An apparatus according to claim 8, wherein in the case where said deferred payment transaction on the principle of occurrence is selected as an unsettled transaction type, said management control unit:

 sequentially executes, as processes upon
25 prepayment, an issue of an incomplete transaction slip number, an input of a delivery date of goods, a registration of goods, a registration of an amount of

payment including a zero payment, an issue of a customer copy with said slip number, a sum-up of sales amounts, and a registration of a delivery; and

sequentially executes, as processes upon payment,
5 a display of incomplete transaction information by the input of said slip number, a registration of an amount of payment, and in case of a zero balance, a termination of the incomplete transaction.

10 10. An apparatus according to claim 3, wherein said transaction defining unit forms type code information having a combination of categories in which a sales sum-up timing is set to a timing upon completion of the transaction, a prepayment is unnecessary, and a
15 delivery of goods is set to a predelivery with respect to said deferred payment transaction on the principle of completion.

11. An apparatus according to claim 10, wherein in the
20 case where said deferred payment transaction on the principle of completion is selected as an unsettled transaction type, said management control unit:

sequentially executes, as processes upon prepayment, an issue of an incomplete transaction slip
25 number, an input of a delivery date of goods, a registration of goods, a registration of an amount of payment including a zero payment, an issue of a

customer copy with said slip number, and a registration of a delivery; and

sequentially executes, as processes upon payment, a display of incomplete transaction information by the input of said slip number, a registration of an amount of payment, a sum-up of sales amounts in case of a zero balance, and a termination of the incomplete transaction.

10 12. An apparatus according to claim 1, wherein:
said transaction defining unit has an incomplete transaction management table, a type code table, an incomplete transaction line item information table, and a payment information management table;

15 basic management information such as store number, incomplete transaction slip number, type code, transaction serial number upon occurrence, date and time of occurrence, customer number, requested amount, amount of down payment, balance, scheduled delivery
20 date, delivery completion flag, sum-up possible/impossible flag, totalization completion flag, and the like is stored in said incomplete transaction management table;

said type code table is designated by a type code
25 of said incomplete transaction management table, and category combination information such as sum-up timing, prepayment necessary/unnecessary flag, predelivery

possible/impossible flag, method of tender, delivering method, and the like is stored in said type code table;

5 said incomplete transaction line item information table is designated by an incomplete transaction slip number in said incomplete transaction management table, and goods management information such as goods code, unit price, quantity, discount information, and the like is stored in said incomplete transaction line item information table; and

10 said payment information management table is designated by an incomplete transaction slip number in said incomplete transaction management table, and payment management information such as date and time of payment, paid amount, kind of tender, and the like is
15 stored in said payment information management table.

13. An apparatus according to claim 12, wherein on the basis of each table information of said transaction defining unit, said management control unit displays a
20 list showing the incomplete transactions, a list of the customers who do not come to receive goods even after the scheduled delivery date, a list of the customers who do not come to pay after the term of payment, a list of the payment situations, and the like as a whole
25 list or every type.

14. A transaction managing method for a POS terminal,

comprising the steps of:

defining a plurality of kinds of unsettled transaction types by combining a plurality of predetermined categories; and

5 designating one of said plurality of kinds of unsettled transaction types by an interactive operation with the operator and managing and controlling processes in a lump from the beginning of the transaction to the end.

10

15. A recording medium which stores a transaction management program, wherein said transaction management program comprises the steps of:

15 defining a plurality of kinds of unsettled transaction types by combining a plurality of predetermined categories; and

20 designating one of said plurality of kinds of unsettled transaction types by an interactive operation with the operator and managing and controlling processes in a lump from the beginning of the transaction to the end.

16. A transaction system in which a plurality of terminal apparatuses are connected through a network to
25 a server for managing transaction information, wherein
 each of said terminal apparatuses comprises:
 a transaction defining unit for defining a

a management control unit for designating one of
said plurality of kinds of unsettled transaction types
5 by an interactive operation with the operator and
managing and controlling processes in a lump from the
beginning of the transaction to the end.

ABSTRACT OF THE DISCLOSURE

A transaction managing apparatus for a POS terminal has: a transaction defining unit for defining a plurality of kinds of unsettled transaction types by combining a plurality of predetermined categories; and a management control unit for designating one of the plurality of kinds of unsettled transaction types by the interactive operation with the operator and managing and controlling processes in a lump from the start of the transaction to the end. The transaction defining unit defines four kinds of unsettled transaction types by combining at least three items such as sales sum-up timing, presence or absence of necessity of prepayment, and delivering method of goods as categories.

FIG. 1

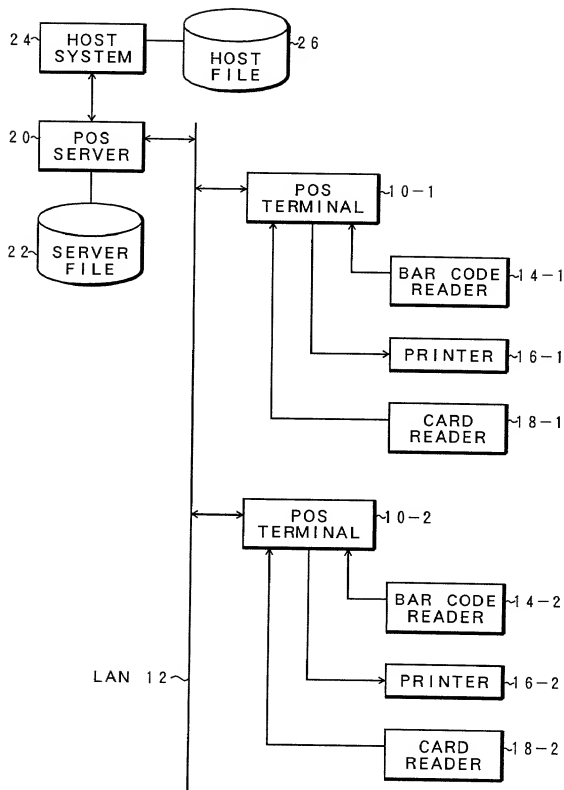


FIG. 2

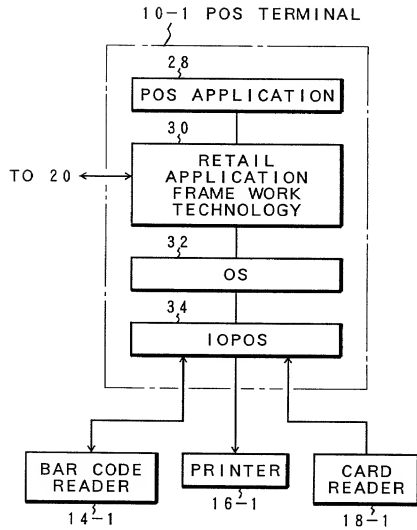


FIG. 3

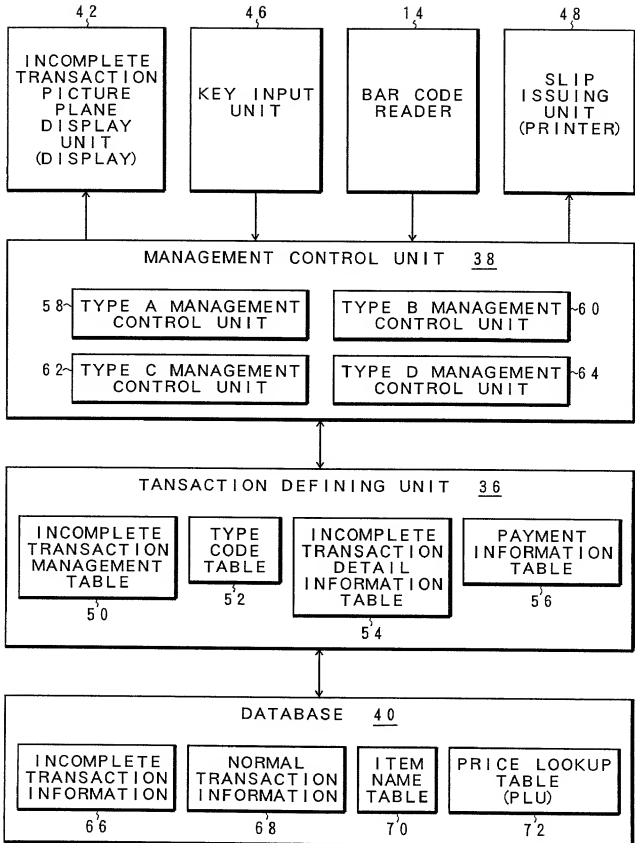


FIG. 4A

50 INCOMPLETE TRANSACTION
MANAGEMENT TABLE

STORE No.
INCOMPLETE TRANSACTION SERIAL No.
TYPE CODE
TRANSACTION SERIAL No. UPON OCCURRENCE
DATE AND TIME UPON OCCURRENCE
CUSTOMER No.
STATUS CODE
FINAL UPDATING DATE AND TIME
EMPLOYEE ID UPON OCCURRENCE
REQUESTED AMOUNT
DOWN PAYMENT
BALANCE
SCHEDULED DELIVERY DATE
DELIVERY COMPLETION FLAG
SUM-UP POSSIBLE/IMPOSSIBLE FLAG
TOTALIZATION COMPLETION FLAG
:

54 INCOMPLETE TRANSACTION
DETAIL INFORMATION TABLE

STORE No.
INCOMPLETE TRANSACTION SERIAL No.
LINE ITEM No.
LINE ITEM INFORMATION
:

5.2 TYPE CODE TABLE

1

10

L

096307-4

FIG. 5A

74 TYPE CODE TABLE FOR DEFERRED
PICKUP TRANSACTION AND ON
THE PRINCIPLE OF OCCURRENCE

TYPE CODE	A
SUM-UP TIMING	UPON OCCURRENCE OF TRANSACTION
PREPAYMENT NECESSARY /UNNECESSARY FLAG	NECESSARY (TOTAL AMOUNT)
DELIVERING METHOD	POSTDELIVERY
SCHEDULED DELIVERY DATE	AFTER 5 BUSINESS DAYS

FIG. 5B

76 TYPE CODE TABLE FOR DEFERRED
PICKUP TRANSACTION AND ON
THE PRINCIPLE OF COMPLETION

TYPE CODE	B
SUM-UP TIMING	AT THE END OF TRANSACTION
PREPAYMENT NECESSARY /UNNECESSARY FLAG	NECESSARY (TOTAL AMOUNT)
DELIVERING METHOD	POSTDELIVERY
SCHEDULED DELIVERY DATE	AFTER 5 BUSINESS DAYS

FIG. 5C

78 TYPE CODE TABLE FOR DEFERRED
 PAYMENT TRANSACTION AND ON
 THE PRINCIPLE OF OCCURRENCE

TYPE CODE	C
SUM-UP TIMING	UPON OCCURRENCE OF TRANSACTION
PREPAYMENT NECESSARY / UNNECESSARY FLAG	UNNECESSARY
DELIVERING METHOD	PREDELIVERY
SCHEDULED DELIVERY DATE	APPOINTED DAY

FIG. 5D

80 TYPE CODE TABLE FOR DEFERRED
 PAYMENT TRANSACTION AND ON
 THE PRINCIPLE OF COMPLETION

TYPE CODE	D
SUM-UP TIMING	AT THE END OF TRANSACTION
PREPAYMENT NECESSARY / UNNECESSARY FLAG	UNNECESSARY
DELIVERING METHOD	PREDELIVERY
SCHEDULED DELIVERY DATE	APPOINTED DAY

FIG. 6

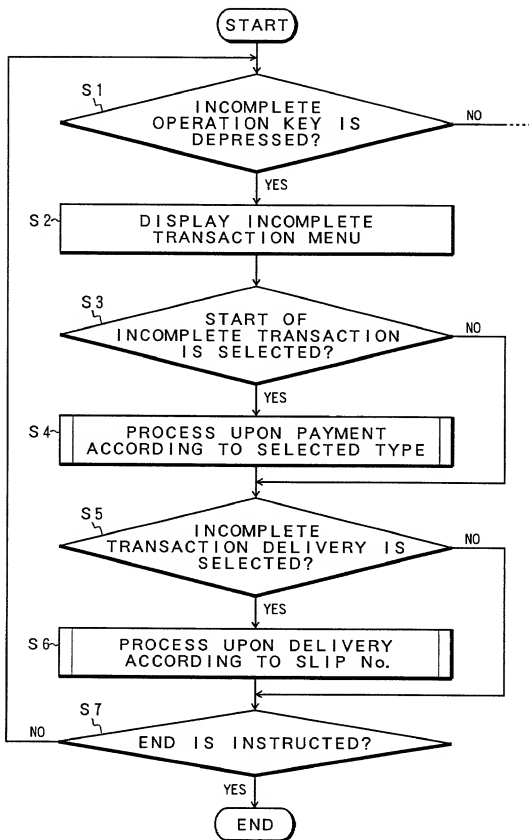


FIG. 7

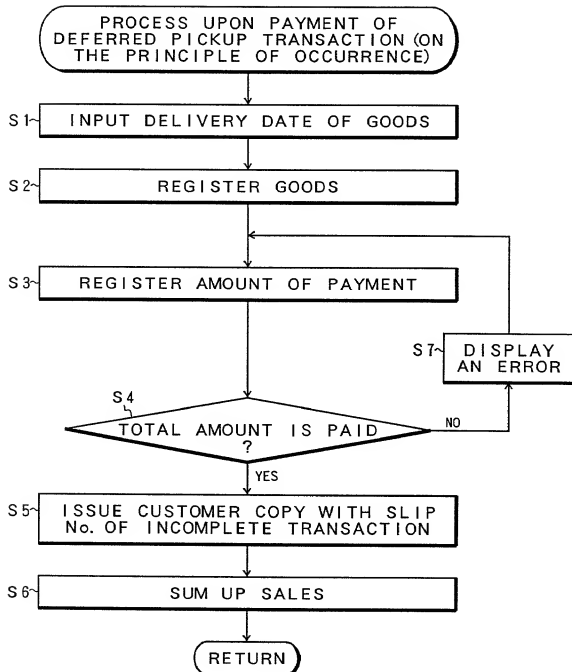


FIG. 8A

82

SALES REGISTRATION

REGISTER GOODS.

84

SUBTOTAL ¥0

TAX AMOUNT ¥0

TOTAL ¥0

85

86 INCOMPLETE

END

FIG. 8B

88

INCOMPLETE TRANSACTION MENU

90 ~ ☒ TRANSACTION UPON PAYMENT

92 ~ ☐ TRANSACTION UPON DELIVERY

OK

CANCEL

FIG. 8C

94

SELECTION OF INCOMPLETE TRANSACTION TYPE

96~☒ DEFERRED PICKUP TRANSACTION
(ON THE PRINCIPLE OF OCCURRENCE)

98~☐ DEFERRED PAYMENT TRANSACTION
(ON THE PRINCIPLE OF OCCURRENCE)

100~☐ DEFERRED PICKUP TRANSACTION
(ON THE PRINCIPLE OF COMPLETION)

102~☐ DEFERRED PAYMENT TRANSACTION
(ON THE PRINCIPLE OF COMPLETION)

OK CANCEL

FIG. 8D

104

DEFERRED PICKUP TRANSACTION
(ON THE PRINCIPLE OF OCCURRENCE)

INPUT DELIVERY DATE.

106~ 19990928

OK CANCEL

FIG. 9

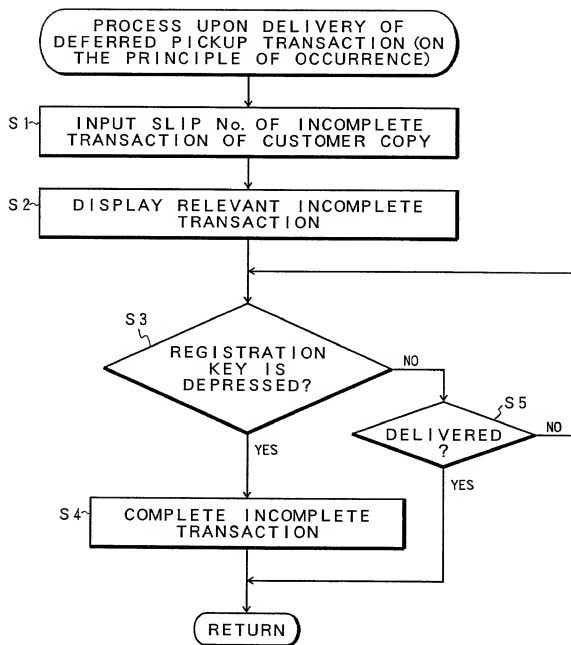


FIG. 10A

82

SALES REGISTRATION

84 REGISTER GOODS.

85

SUBTOTAL ¥0

TAX AMOUNT ¥0

TOTAL ¥0

86 INCOMPLETE END

FIG. 10B

88

INCOMPLETE TRANSACTION MENU

90 ~ ☐ TRANSACTION UPON PAYMENT

92 ~ ☒ TRANSACTION UPON DELIVERY

OK CANCEL

FIG. 10C

108

DELIVERY

INPUT SLIP No.

110

FIG. 10D

112

INCOMPLETE TRANSACTION CONFIRMATION
(DEFERRED PICKUP TRANSACTION
• ON THE PRINCIPLE OF OCCURRENCE)

114

SLIP No.

SALES DATE

SALES AMOUNT

BALANCE

DELIVERY DATE

COMPLETION OF PAYMENT

DELIVERED

0000001

99/09/23

¥18,000

¥0

99/09/28

☒ 116

☐ 118

FIG. 10E

112

INCOMPLETE TRANSACTION CONFIRMATION
(DEFERRED PICKUP TRANSACTION
• ON THE PRINCIPLE OF OCCURRENCE)

114

SLIP No.	0000001
SALES DATE	99/09/23
SALES AMOUNT	¥18,000
BALANCE	¥0
DELIVERY DATE	99/09/28
COMPLETION OF PAYMENT	<input checked="" type="checkbox"/> 116
DELIVERED	<input checked="" type="checkbox"/> 118

OK CANCEL

FIG. 11

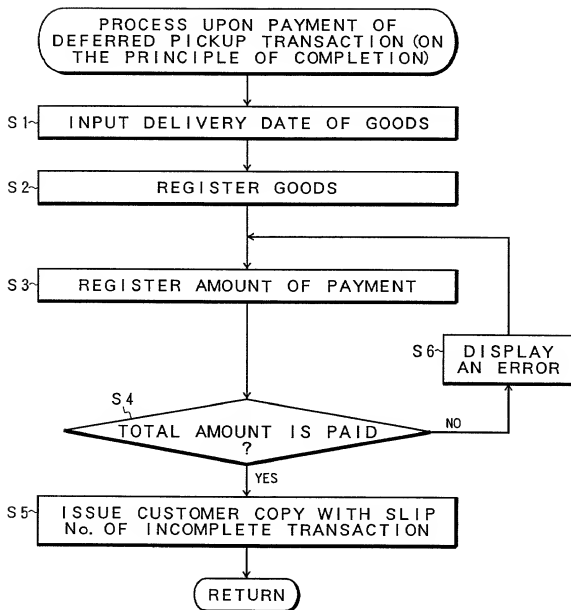


FIG. 12

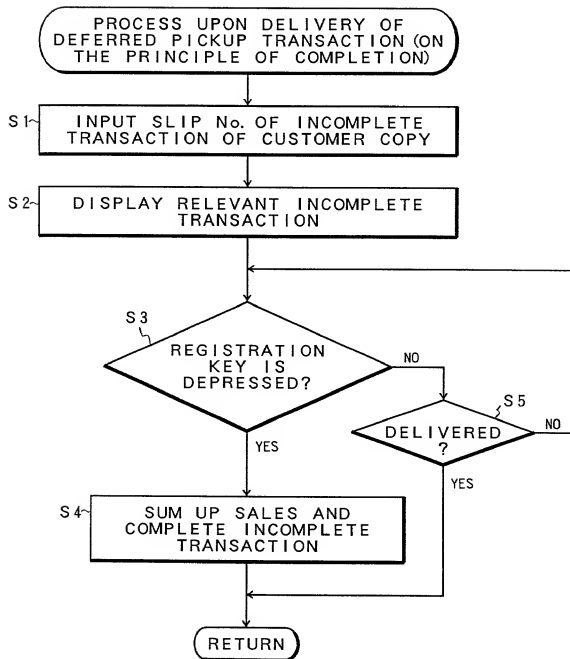


FIG. 13

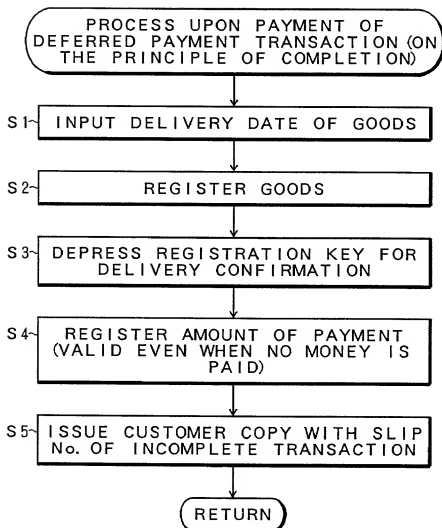


FIG. 14A

SALES REGISTRATION

REGISTER GOODS.

84

SUBTOTAL	¥0	
TAX AMOUNT	¥0	
TOTAL	¥0	

85

86

FIG. 14B

INCOMPLETE TRANSACTION MENU

90 ☐ TRANSACTION UPON PAYMENT

92 ☒ TRANSACTION UPON DELIVERY

FIG. 14C

94

SELECTION OF INCOMPLETE TRANSACTION TYPE			
96~ <input type="checkbox"/>	DEFERRED PICKUP TRANSACTION (ON THE PRINCIPLE OF OCCURRENCE)		
98~ <input type="checkbox"/>	DEFERRED PAYMENT TRANSACTION (ON THE PRINCIPLE OF OCCURRENCE)		
100~ <input type="checkbox"/>	DEFERRED PICKUP TRANSACTION (ON THE PRINCIPLE OF COMPLETION)		
102~ <input checked="" type="checkbox"/>	DEFERRED PAYMENT TRANSACTION (ON THE PRINCIPLE OF COMPLETION)		
<table border="1"><tr><td>OK</td><td>CANCEL</td></tr></table>		OK	CANCEL
OK	CANCEL		

FIG. 14D

115

DEFERRED PAYMENT TRANSACTION (ON THE PRINCIPLE OF COMPLETION)			
INPUT DELIVERY DATE.			
115-1~	<table border="1"><tr><td>19990923</td></tr></table>	19990923	
19990923			
<table border="1"><tr><td>OK</td><td>CANCEL</td></tr></table>		OK	CANCEL
OK	CANCEL		

FIG. 14E

116-1

INCOMPLETE TRANSACTION CONFIRMATION (DEFERRED PAYMENT TRANSACTION • ON THE PRINCIPLE OF COMPLETION)	
SLIP No.	0000002
SALES DATE	99/09/23
SALES AMOUNT	¥35,000
BALANCE	¥35,000
DELIVERY DATE	99/09/23
COMPLETION OF PAYMENT	<input type="checkbox"/> 124
DELIVERED	<input type="checkbox"/> 126
<div style="display: flex; justify-content: space-around; margin-top: 20px;">OKCANCEL</div>	

FIG. 15

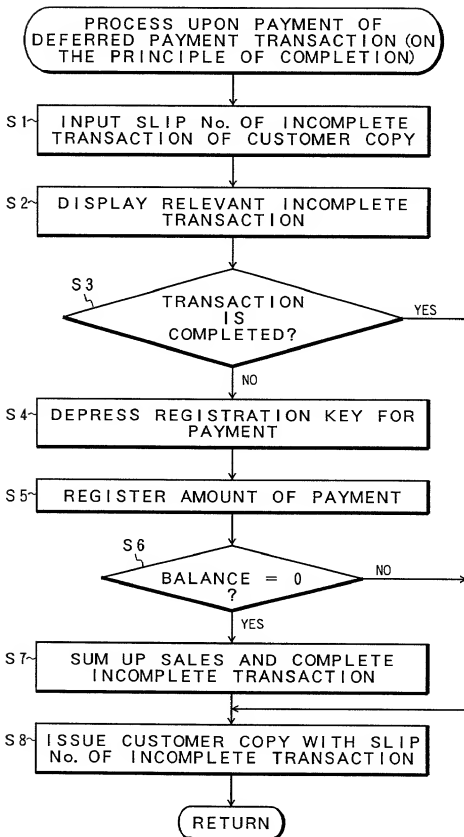


FIG. 16A

82

SALES REGISTRATION

REGISTER GOODS.

84

SUBTOTAL ¥0

TAX AMOUNT ¥0

TOTAL ¥0

85

86 INCOMPLETE

END

FIG. 16B

88

INCOMPLETE TRANSACTION MENU

90 ~ ☐ TRANSACTION UPON PAYMENT

92 ~ ☒ TRANSACTION UPON DELIVERY

OK

CANCEL

FIG. 16C

115

DELIVERY

INPUT SLIP No.

120

FIG. 16D

116-2

INCOMPLETE TRANSACTION CONFIRMATION
(DEFERRED PAYMENT TRANSACTION
ON THE PRINCIPLE OF COMPLETION)

SLIP No.	0000002
SALES DATE	99/09/23
SALES AMOUNT	¥35,000
BALANCE	¥25,000
DELIVERY DATE	99/09/23
COMPLETION OF PAYMENT	<input type="checkbox"/>
DELIVERED	<input checked="" type="checkbox"/> 124
	126

FIG. 16E

116-3

INCOMPLETE TRANSACTION CONFIRMATION (DEFERRED PAYMENT TRANSACTION • ON THE PRINCIPLE OF COMPLETION)	
SLIP No.	0000002
SALES DATE	99/09/23
SALES AMOUNT	¥35,000
BALANCE	¥0
DELIVERY DATE	99/09/28
COMPLETION OF PAYMENT	<input checked="" type="checkbox"/> 124
DELIVERED	<input checked="" type="checkbox"/> 126

OK	CANCEL
----	--------

FIG. 17

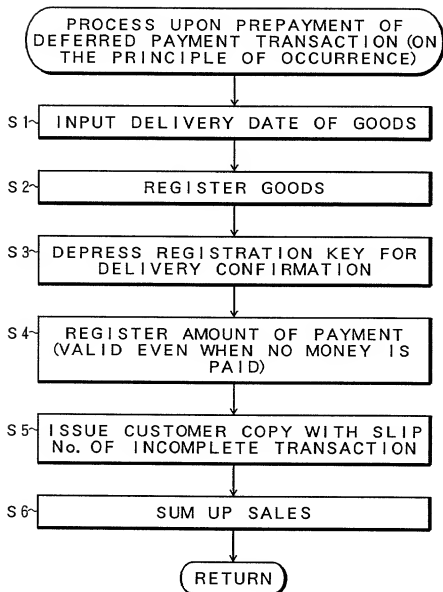


FIG. 18

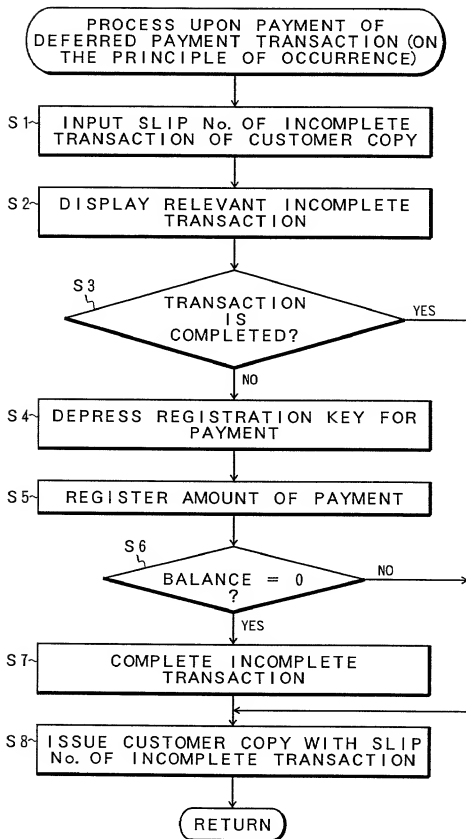


FIG. 19A

128

INCOMPLETE TRANSACTION LIST				AS OF Oct. 1, 1999
SLIP No.	DATE AND TIME OF OCCURRENCE	AMOUNT	TYPE	
0000001	99. 09. 23	15, 000	DEFERRED PICKUP A	
0000022	99. 09. 23	24, 800	DEFERRED PICKUP A	
0000034	99. 09. 24	49, 800	DEFERRED PAYMENT D	
0000045	99. 09. 24	17, 500	DEFERRED PICKUP A	
.	.	.	.	
.	.	.	.	
.	.	.	.	
0000241	99. 09. 27	115, 000	DEFERRED PAYMENT D	

OK

CANCEL

130

FIG. 20A

50 INCOMPLETE TRANSACTION
MANAGEMENT TABLE

STORE No.
INCOMPLETE TRANSACTION SERIAL No.
TYPE CODE
TRANSACTION SERIAL No. UPON OCCURRENCE
DATE AND TIME UPON OCCURRENCE
CUSTOMER No.
STATUS CODE
FINAL UPDATING DATE AND TIME
EMPLOYEE ID UPON OCCURRENCE
OPTION CODE
PAYMENT SCHEDULE CODE
REQUESTED AMOUNT
DOWN PAYMENT
SCHEDULED DELIVERY DATE
DELIVERY COMPLETION FLAG
SUM-UP POSSIBLE/IMPOSSIBLE FLAG
TOTALIZATION COMPLETION FLAG
.
.

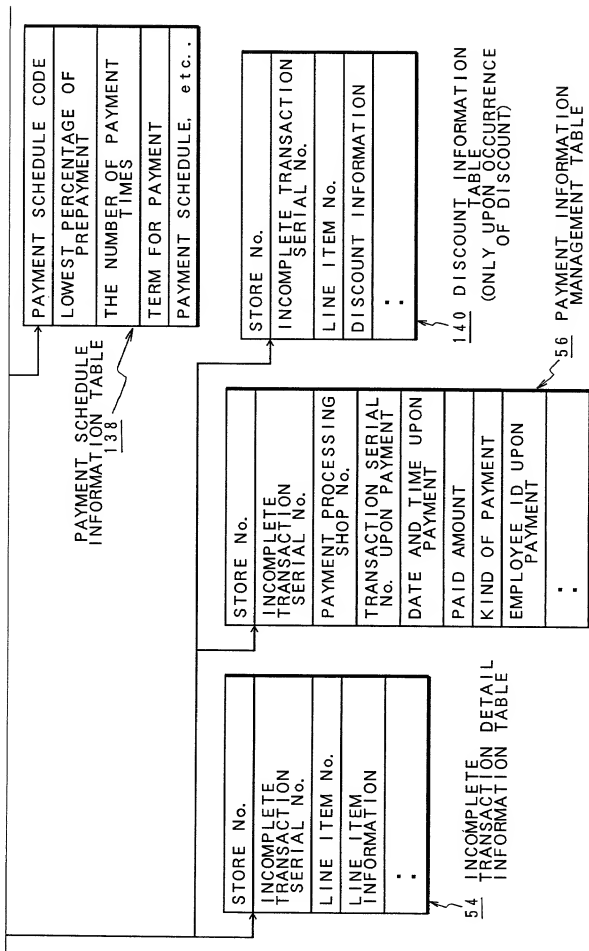
52 TYPE CODE TABLE

TYPE CODE
SUM-UP TIMING
PREPAYMENT NECESSARY /UNNECESSARY FLAG
PREDelivery POSSIBLE /IMPOSSIBLE FLAG
PAYING METHOD
DELIVERING METHOD
.
.

136 OPTION TABLE

OPTION CODE
INCOMPLETE TRANSACTION LONGEST PERIOD
METHOD AFTER THE ELAPSE OF THE LONGEST PERIOD
COMMISSION ON POSTPAYMENT
.
.

FIG. 20B



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Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名が発明者として、私は以下の通り宣言します。

As a below named inventor, I hereby declare that:

私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。

My residence, post office address and citizenship are as stated next to my name.

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者であると（下記の名称が複数の場合）信じています。

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Transaction managing apparatus and
and method and recording medium
storing transaction managing
program therein

上記発明の明細書（下記の欄でx印がついていない場合は、本表に添付）は、

the specification of which is attached hereto unless the following box is checked:

☐ 月 日に提出され、米国出願番号または特許協定条約国際出願番号を _____ とし、
（該当する場合） _____ に訂正されました。

☐ was filed on _____
as United States Application Number or
PCT International Application Number
_____ and was amended on
_____ (if applicable).

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

私は、通知規則第37条第1条56項に規定されるとおり、特許出願の存続について必要な情報を開示する義務があることを認めます。

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

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Prior Foreign Application(s)

外国での先行出願

11/298,009

(Number)

(番号)

Japan

(Country)

(国名)

20/10/99

(Day/Month/Year Filed)

(出願年月日)

Priority Not Claimed

優先権主張なし

=

(Number)

(番号)

(Country)

(国名)

(Day/Month/Year Filed)

(出願年月日)

=

私は、第35編米国法典第119条(e)項に基づいて下記の米国特許出願規定に記載された権利をここに主張いたします。

(Application No.)

(出願番号)

(Filing Date)

(出願日)

(Application No.)

(出願番号)

(Filing Date)

(出願日)

私は、下記の米国法典第35編第120条に基づいて下記の米国特許出願に記載された権利、又は米国を指定している特許協力条約365条(c)に基づき権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第35編第120条第1項又は特許協力条約で規定された方法で先行する米国特許出願に開示されていない限り、その先行米国出願書提出日より本出願書の日本国内または特許協力条約国際提出日よりの期間中に入手された、通報規則法典第37編第1条56項で定義された特許資格の有無に関する重要な情報について開示義務があることを認識しています。

(Application No.)

(出願番号)

(Filing Date)

(出願日)

(Status: Patented, Pending, Abandoned)

(現況: 特許許可済、係属中、放棄済)

(Application No.)

(出願番号)

(Filing Date)

(出願日)

(Status: Patented, Pending, Abandoned)

(現況: 特許許可済、係属中、放棄済)

私は、私自身の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じることに基づき表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の表明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Japanese Language Declaration

(日本語宣言書)

委任状: 私は下記の発明者として、本出願に関する一切の手続きを特許庁長官に対して遂行する弁護士または代理人として、下記の者を指名いたします。(弁護士、または代理人の氏名及び登録番号を明記のこと)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (list name and registration number)

書面送付先

And I hereby appoint as principal attorneys: David T. Nikaide, Reg. No. 22,663; Charles M. Marmelstein, Reg. No. 25,895; George E. Oram, Jr., Reg. No. 27,931; Robert B. Murray, Reg. No. 22,980; E. Marcie Enas, Reg. No. 32,131; Douglas H. Goldbush, Reg. No. 33,125; Monica Chin Kitts, Reg. No. 36,105; Richard J. Berman, Reg. No. 39,107; King L. Wong, Reg. No. 37,500; Karen K. Costantino, Reg. No. 33,107; James A. Poulot, III, Reg. No. 31,714; Patrick D. Muir, Reg. No. 37,403; Sharon N. Klesner, Reg. No. 36,335; and Murat Orzu, Reg. No. 44,275; Bradley D. Goldizen, Reg. No. 43,637; and N. Alexander Nolte, Reg. No. 45,689.

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発明者の署名 日付	Inventor's signature Date
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住所	Residence
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国籍	Citizenship
	Japan
私書箱	Post Office Address
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第二共同発明者名	Full name of second joint inventor, if any
第二共同発明者の署名 日付	Second inventor's signature Date
住所	Residence
国籍	Citizenship
私書箱	Post Office Address

(第三以降の共同発明者についても同様に記載し、署名をすること)

(Supply similar information and signature for third and subsequent joint inventors.)